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| APPLICATION NO. 08/879,322 | FILING DATE 05/20/97 | FIRST NAMED INVENTOR HUBBARD | ATTORNEY DOCKET NO. A 4236 |
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EXAMINER
DASTOURLI, M

ART UNIT 1723 PAPER NUMBER

DATE MAILED:

11/16/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/879,322

Applicant(s)

Hodgson et al

Examiner

Mehrdad Dastouri

Group Art Unit

2723



☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1035 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire Three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-11 _____ is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-11 _____ is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

On Page 3, Line 18 and 19, "prospective" should be corrected to "perspective"; on Page 9, Line 4, "particle particle size" should be changed to "particle size".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) a patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable by Tao (U.S. 5,533,628) in view of Graveley (U.S. 3,575,287).

Regarding Claim 1, Tao discloses an apparatus for measurement of the fruit particles comprising:

a substantially opaque cabinet (FIG. 1; Column 7, Lines 14-19. The color sorting apparatus 5 includes the housing cabinet that encloses the camera and light source.); a camera in the upper portion of said cabinet (FIGs. 1, 4 and 6; Column 7, Lines 38-40; Column 8, Lines 12-23); a light source in said cabinet (FIG. 1; Column 7, Lines 34-37; Column 8, Lines 36-46); and a computer

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with image analyzing software (FIGs. 1, 2 and 3; Column 7, Lines 40-67, Column 8, Lines 1-11; Column 8, Lines 47-67, Column 9, Lines 1-14).

Tao does not disclose an apparatus for measurement of the fruit particles comprising a sample tray. Tao utilizes speed belt 7 and wheels 9 as a provision for supporting fruits. Graveley disclose a sample tray utilized as a container for holding food products (FIG. 1; Column 2, Lines 3-24). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a tray as a part of an apparatus for measurement of the fruit particles because it will be used for supporting the fruit particles during the image acquisition.

Regarding Claim 3, Tao disclose an apparatus for measurement of the fruit particles wherein the light source comprises an incident light source within the cabinet (FIG. 1; Column 7, Lines 34-37; Column 8, Lines 36-46).

Regarding Claim 6, neither Tao (explicitly), nor Graveley disclose an apparatus for measurement of the fruit particles wherein the inside of the cabinet is non-reflecting. Characteristics of the inside surface of the cabinet is the decision based upon designer's preference. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a cabinet with non-reflecting inside surface because it will minimize light scattering inside the cabinet and will prevent degrading of the image quality due to light scattering.

Regarding Claim 7, Tao does not disclose an apparatus for measurement of the fruit particles wherein the sample tray comprises a light-transmitting bottom. Graveley disclose a

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sample tray with light transmitting bottom utilized as a container for food products (FIG. 1; Column 2, Lines 3-24). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a light transmitting (transparent) tray as a part of an apparatus for measurement of the fruit particles because it will have the property of transmitting light so that objects lying on the tray are seen clearly, and their image are intelligibly obtained when subjected to the incident light of the bottom mounted light box.

4. Claims 2, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable by Tao (U.S. 5,533,628) in view of Graveley (U.S. 3,757,287), and further in view of Saxena (U.S. 5,212,637).

Regarding Claim 2, neither Tao nor Graveley disclose an apparatus for measurement of the fruit particles with a light source comprising of a light box in the lower portion of the apparatus housing cabinet. Saxena discloses an image processing apparatus comprising a light box in the lower portion of the apparatus housing cabinet (FIG. 1; Column 3, Lines 3-5). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a light box in the lower portion of the apparatus housing cabinet for measurement of the fruit particles because when the objects lying on the tray are subjected to the incident light of the bottom mounted light box, they will be seen clearly, and their images are obtained appropriately.

Regarding Claim 8, Tao, Graveley and Saxena do not disclose an apparatus for measurement of the fruit particles wherein the apparatus further comprises a light box cover. Configuration of the internal parts of the cabinets is based upon the discretion of the designer. Conventionally, cabinets are manufactured of modular parts. The cover for an internal component

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such as a light box is considered one of the basic elements in composite modular structure of the cabinets, and has been frequently installed in electrical distribution boards (Official Notice). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a cabinet with cover for the light box because it will enclose components with distinct functions in separate segments.

Regarding Claim 9, Tao, Graveley and Saxena do not disclose an apparatus for measurement of the fruit particles wherein the apparatus further comprises a sample tray guide. Configuration of the internal parts of the cabinets is based upon the discretion of the designer. Conventionally, cabinets are manufactured of modular parts. A cover with guides for installation of another component like a tray is considered one of the normal elements in composite modular structure of the cabinets, and has been frequently installed in electrical distribution boards (Official Notice). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a cabinet with a sample tray guide because it is the conventional part for the installation of the removable components.

5. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable by Tao (U.S. 5,533,628) in view of Graveley (U.S. 3,575,287), and further in view of Hed (U.S. 5,301,090).

Regarding Claim 4, neither Tao nor Graveley disclose an apparatus for measurement of the fruit particles wherein the light source comprises switches for adjusting the intensity of the light. Hed discloses a light source comprising switches for adjusting the intensity of the light

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(FIGs. 5 and 7; Column 4, Lines 4-19; Column 12, Lines 11-16). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide an apparatus for measurement of the fruit particles wherein the light source comprises switches for adjusting the intensity of the light because it will provide the capability of obtaining the images of samples under different illumination conditions to optimize the quality of images and prevent the formation of shadows.

Regarding Claim 5, neither Tao nor Graveley disclose an apparatus for measurement of the fruit particles wherein the light source comprises multiple, independently-adjustable, light-producing sources. Hed discloses a light source comprising multiple, independently-adjustable, light-producing sources (FIGs. 5 and 7; Column 4, Lines 4-13; Column 13, Lines 51-68, Column 14, Lines 1-15). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide an apparatus for measurement of the fruit particles wherein the light source comprises multiple, independently-adjustable, light-producing sources because it will provide flexibility of controlling the color balance and creating the desired color by adding primary colors at the desired ratio to yield the desired chromaticity.

With regards to Claim 10, arguments analogous to those presented for Claims 1, 3, 4, 6 and 7 are applicable to Claim 10.

With regards to Claim 11, arguments analogous to those presented for Claim 1 are applicable to Claim 11.

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Other prior art cited

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,818,953 to Queisser et al is cited for an optical characterization method.

U.S. Patent 5,659,624 to Fazzari et al is cited for a high speed mass flow food sorting apparatus for optically inspecting and sorting bulk food products.

U.S. Patent 4,515,275 to Mills is cited for an apparatus and method for processing fruit and the like.

U.S. Patent 5,732,147 to Tao is cited for a defective object inspection and separation system using image analysis and curvature transformation.

U.S. Patent 5,659,819 to LeCover et al is cited for an apparatus for taking pictures against white backgrounds.

U.S. Patent 5,574,251 to Sevier is cited for an electrical and electronic cabinet system.

U.S. Patent 5,435,641 to Dumon Dupuis et al is cited for a cabinet for electrical equipment.

U.S. Patent 5,344,046 to Maldanis et al is cited for a universal pull out drawer for vending machine.

U.S. Patent 4,702,535 to Beun is cited for an electronic equipment drawer.

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Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mehrdad Dastouri whose telephone number is (703) 305-2438.

The examiner can normally be reached on Monday through Friday from 8:00 a.m. to 4:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au, can be reached at (703)308-6604.

Any response to this action should be mailed to:

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or faxed to:

(703) 308-9051, (for formal communications intended for entry)

or:

(703) 308-5397 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703)305-3900.

MD
Mehrdad Dastouri
Patent Examiner
Group Art Unit 2723
October 23, 1998

Jon Chang
Jon Chang
Primary Examiner